PENDING CLAIMS

1. (Original) A method for accelerating the cell cycle, comprising delivering to a cell an effective amount of electromagnetic energy to accelerate the cell cycle of said cell.

2. (Original) The method of claim 1, wherein the rate at which said cell replicates its DNA increases.

3. (Original) The method of claim 1, wherein the G1 stage of said cell cycle is shortened.

4. (Original) The method of claim 1, wherein said cell cycle is accelerated 2 fold.

5. (Original) The method of claim 1, wherein said electromagnetic energy has a wavelength in a region of the spectrum selected from the group consisting of X-ray radiation, ultraviolet radiation, visible radiation, infrared radiation, microwave radiation and radiofrequency radiation.

6. (Original) The method of claim 1, wherein said electromagnetic energy comprises an energy that is in the range of 1 to 300 mW/cm2.

7. (Original) The method of claim 1, wherein said electromagnetic energy is pulsed.

8. (Original) The method of claim 1, wherein said cell is selected from the group consisting of a comprises a cell selected form the group consisting of fibroblast, neuronal cell, epitheleal cell, macrophage, neutrophil, keratinocyte, endothelial cell, epidermal melanocyte, hair follicle papilla cell, skeletal muscle cell, smooth muscle cell, osteoblast, neuron, chondrocyte, hepatocyte, pancreatic cell, kidney cell, aortic cell, bronchial cell and tracheal cell.

9. (Original) The method of claim 1, further comprising delivering to said cell an effective amount of electromagnetic energy to activate a cell cycle regulator.

10. (Original) The method of claim 1, further comprising delivering to said cell an effective amount of electromagnetic energy to activate a signal transduction protein.

11. (Original) The method of claim 1, further comprising delivering to said cell an effective amount of electromagnetic energy to activate a transcription factor.

12. (Original) The method of claim 1, further comprising delivering to said cell an effective amount of electromagnetic energy to activate a DNA synthesis protein.

13. (Original) The method of claim 1, further comprising delivering to said cell an effective amount of electromagnetic energy to activate a receptor.

14. (Original) The method of claim 1, further comprising delivering to said cell an effective amount of electromagnetic energy to inhibit the Angiotensin Receptor.

15. (Original) A method for activating a cell cycle regulator, comprising delivering to a cell an effective amount of electromagnetic energy to activate said cell cycle regulator.

16. (Original) The method of claim 15, wherein said cell cycle regulator accelerates the cell cycle of said cell.

17. (Original) The method of claim 16, wherein the rate at which said cell replicates its DNA increases.

18. (Original) The method of claim 16, wherein the G1 stage of said cell cycle is shortened.

19. (Original) The method of claim 16, wherein said cell cycle is accelerated 2 fold.

20. (Original) The method of claim 15, wherein said electromagnetic energy has a wavelength in a region of the spectrum selected from the group consisting of X-ray radiation, ultraviolet radiation, visible radiation, infrared radiation, microwave radiation and radiofrequency radiation.

21. (Original) The method of claim 15, wherein said electromagnetic energy comprises an energy that is in the range of 1 to 300 mW/cm2.

22. (Original) The method of claim 15, wherein said electromagnetic energy is pulsed.

23. (Original) The method of claim 15, wherein said cell is selected from the group consisting of a fibroblast, neuronal cell, epitheleal cell, macrophage, neutrophil, keratinocyte, endothelial cell, epidermal melanocyte, hair follicle papilla cell, skeletal muscle cell, smooth muscle cell, osteoblast, neuron, chondrocyte, hepatocyte, pancreatic cell, kidney cell, aortic cell, bronchial cell and tracheal cell.

24. (Original) A method for activating a signal transduction protein, comprising delivering to a cell an effective amount of electromagnetic energy to activate said signal transduction protein.

25. (Original) A method for activating a transcription factor, comprising delivering to a cell an effective amount of electromagnetic energy to activate said transcription factor.

26. (Original) A method for activating a DNA synthesis protein, comprising delivering to a cell an effective amount of electromagnetic energy to activate said DNA synthesis protein.

27. (Original) A method for activating a receptor, comprising delivering to a cell an effective amount of electromagnetic energy to activate said receptor.

28. (Original) A method for inhibiting an angiotensin receptor, comprising delivering to a cell an effective amount of electromagnetic energy to inhibit said angiotensin receptor.

29. (Original) A method for reducing inflammation, comprising delivering to a tissue undergoing inflammation an effective amount of electromagnetic energy to reduce said inflammation.

30. (Original) The method of claim 29, wherein said tissue undergoing inflammation comprises neuronal tissue.

31. (Original) The method of claim 30, wherein said inflammation is associated with a neuroinflammatory disease.

32. (Original) The method of claim 31, wherein said neuroinflammatory disease is a demyelinating neuroinflammatory disease.

33. (Original) A method for replacing damaged neuronal tissue, comprising delivering to a damaged neuronal tissue an effective amount of electromagnetic energy to stimulate replacement of damaged neurons.

34. (Original) A method for stimulating growth of administered cells, comprising the steps of:

(a) administering a population of cells to an individual, and

(b) delivering to said population an effective amount of electromagnetic energy to stimulate growth of said population.

35. (Original) The method of claim 34, wherein said population forms a tissue.

36. (Original) The method of claim 34, wherein said population of cells comprises a cell selected form the group consisting of fibroblast, neuronal cell, epitheleal cell, macrophage, neutrophil, keratinocyte, endothelial cell, epidermal melanocyte, hair follicle papilla cell, skeletal muscle cell, smooth muscle cell, osteoblast, neuron, chondrocyte, hepatocyte, pancreatic cell, kidney cell, aortic cell, bronchial cell and tracheal cell.

37. (Original) The method of claim 34, wherein said population of cells is administered to a wound.

38. (Original) The method of claim 34, wherein said population of cells comprises neurons.

39. (Original) The method of claim 37, wherein said population of cells is administered to a site of neuronal damage.

40. (Original) A method for stimulating formation of a tissue, comprising the steps of:

(a) contacting a population of cells with a matrix under conditions suitable for tissue formation by said cells, and

(b) delivering to said population an effective amount of electromagnetic energy to stimulate formation of said tissue.

41. (Original) The method of claim 40, wherein said matrix comprises a synthetic material.

42. (Original) The method of claim 40, wherein said matrix comprises a biological material.

43. (Original) The method of claim 40, wherein steps (a) and (b) occur ex vivo.

44. (Original) The method of claim 40, wherein said tissue comprises artificial skin.

45. (Original) The method of claim 40, further comprising a step of administering said tissue to an individual.

46. (Original) The method of claim 40, wherein said tissue is administered to a wound.

47. (Original) The method of claim 40, wherein step (b) occurs in vivo.

48. (Original) The method of claim 40, wherein steps (a) and (b) occur in vivo.

49. (Original) The method of claim 40, wherein said population of cells comprises fibroblasts or epithelial cells.

50. (Original) The method of claim 40, wherein said population of cells is administered to a wound.

51. (Original) The method of claim 40, wherein said population of cells comprises neurons.

52. (Original) The method of claim 40, wherein said population of cells is administered to a site of neuronal damage.

53. (Original) A method for monitoring progress of electromagnetic therapy, comprising detecting a level of a cell cycle regulator in a cell population following delivery to said cell population of electromagnetic energy, whereby the level of said cell cycle regulator correlates with the effectiveness of said therapy.

54. (Original) A method for modifying electromagnetic therapy, comprising monitoring progress of electromagnetic therapy according to claim 53 and modifying said electromagnetic therapy based on said level of said cell cycle regulator in said cell population.

55. (Original) A method for monitoring progress of electromagnetic therapy, comprising detecting a level of a signal transduction protein in a cell population following delivery to said cell population of electromagnetic energy, whereby the level of said signal transduction protein correlates with the effectiveness of said therapy.

56. (Original) A method for modifying electromagnetic therapy, comprising monitoring progress of electromagnetic therapy according to claim 55 and modifying said electromagnetic therapy based on said level of said signal transduction protein in said cell population.

57. (Original) A method for monitoring progress of electromagnetic therapy, comprising detecting a level of a transcription factor in a cell population following delivery to said cell population of electromagnetic energy, whereby the level of said transcription factor correlates with the effectiveness of said therapy.

58. (Original) A method for modifying electromagnetic therapy, comprising monitoring progress of electromagnetic therapy according to claim 57 and modifying said electromagnetic therapy based on said level of said transcription factor in said cell population.

59. (Original) A method for monitoring progress of electromagnetic therapy, comprising detecting a level of a DNA synthesis protein in a cell population following delivery to said cell population of electromagnetic energy, whereby the level of said DNA synthesis protein correlates with the effectiveness of said therapy.

60. (Original) A method for modifying electromagnetic therapy, comprising monitoring progress of electromagnetic therapy according to claim 59 and modifying said electromagnetic therapy based on said level of said DNA synthesis protein in said cell population.

61. (Original) A method for monitoring progress of electromagnetic therapy, comprising detecting a level of a receptor in a cell population following delivery to said cell population of electromagnetic energy, whereby the level of said receptor correlates with the effectiveness of said therapy.

62. (Original) A method for modifying electromagnetic therapy, comprising monitoring progress of electromagnetic therapy according to claim 61 and modifying said electromagnetic therapy based on said level of said receptor in said cell population.